ABSTRACT

The present invention provides a compound of the following formula (I) below. This compound (I) can be produced by reacting a 2,2'-dimethylene bromide-1,1'-binaphthyl derivative, which can be produced by a relatively small number of processes, with an easily available secondary amine. This compound (I) is useful as a chiral phase-transfer catalyst.

$$R^{4}$$
 R^{5}
 R^{6}
 $R^{6'}$
 $R^{1'}$
 R^{8}
 $R^{1'}$
 R^{8}
 $R^{1'}$
 $R^{1'}$
 R^{1}
 R^{1}
 R^{1}
 R^{1}
 R^{1}
 R^{1}
 R^{1}
 R^{2}
 R^{1}
 R^{2}
 R^{1}